AEP Ohio
Energy Efficiency/Demand Response Plan
Year 2 (1/1/2010-12/31/2010)

Program Year 2010 Evaluation Report:
Home Energy Report Program Pilot

Presented to

AEP OHIO®
A unit of American Electric Power

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Section E. Executive Summary

This report presents a summary of the findings and results from the process evaluation of AEP Ohio's Behavior Modification Program, the Home Energy Report (HER) Program pilot of 2010. The HER works to encourage customer action to improve household energy efficiency by providing information and comparisons about customers' energy use. OPOWER was the implementation contractor selected to provide the Home Energy Report.

Participants in the pilot were selected based on whether they were considered high energy users (125,000) or were customers who received payment assistance through a State of Ohio program (25,000).

Arriving in the mail independently of the utility bill, the two-page (single sheet, front and back) HER, provided by AEP Ohio's implementation contractor, OPOWER, informs the customer about trends in his/her recent electricity use as well as comparing the household electricity use to similar homes in the region. Supportive information is offered to the customers through an Internet site.

Each HER also advises a different set of actions that the customer can take to reduce the electric bill and make the household more energy efficient. However, although the HER reports electricity used for a certain period, it should not be confused with a billing statement; bills with "amount due" and "due date" come to customers by a separate mailing.

E.1 Evaluation Objectives

The Process Evaluation provides the basis for analysis and interpretation of the eventual Impact Evaluation based on a billing analysis. The Process Evaluation collects information on customer understanding, motivation and behavior regarding household energy conservation. In other words, the Process Evaluation helps determine whether the customer perceives that the HER provides value to the Participant. It also seeks to identify areas of improvement from the customer's perspective.

The Process Evaluation supplies verification that the HERs were received, read and understood. In addition, the evaluation team sought to determine whether customers found the information believable, helpful and frequent enough to be useful self-monitoring energy information for the customer.

Additional research objectives include examination of the usefulness of the HER for lower-than-average income households, and determining whether there were differences in customer response between Ohio Power (OPCo) and Columbus Southern Power (CSP).
E.2 Evaluation Methods

The primary method for obtaining customer views on the HER pilot was a wave of telephone interviews conducted with more than 200 participating residential customers and a control group of about 70 residential non-participating customers. The process evaluation drew upon OPOWER program materials, website materials, published literature by OPOWER principals, advisers and academic affiliates. Additional secondary research was done through interviews with past Navigant evaluators of OPOWER programs at Sacramento Metropolitan Utility District (SMUD), and Commonwealth Edison (ComEd). In addition, information was gathered on theory and field experimentation involving lifestyle-change efforts similar to OPOWER. The process evaluation was informed by a December web-based teleconference involving AEP Ohio and OPOWER staff, including questions and answers, and a more in-depth March interview with the AEP Ohio program coordinator.

Table E-1 provides a summary of the primary data collection activities conducted to support the process evaluation. As shown, the primary customer impact data collection came from computer-assisted telephone interviews (CATI) by a third-party survey house using an interview guide.

<table>
<thead>
<tr>
<th>Targeted Population</th>
<th>Sample Frame</th>
<th>Sample Design</th>
<th>Sample Size</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>AEP Ohio and OPOWER Program Staff</td>
<td>Arranged by AEP Ohio</td>
<td>Evaluation Consultant</td>
<td>9</td>
<td>Nov.2010-Mar 2011</td>
</tr>
<tr>
<td>In-Depth Phone Interviews</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AEP Ohio Program Coordinator</td>
<td></td>
<td>Evaluation Consultant</td>
<td>1</td>
<td>March 2011</td>
</tr>
<tr>
<td>Participating and Non-Participant group customers</td>
<td>Roster of Participant and Non-Participant populations</td>
<td>Random sample of each sub-population as fielded by the Blackstone Survey Group</td>
<td>Participant=215 Non-Participant=72</td>
<td>Feb. 2011</td>
</tr>
</tbody>
</table>

E.3 Key Findings and Recommendations

Getting the Report to Designated Participants

» A verification section in the phone survey found that 89 percent of intended Participants reported that they did receive one or more HERs since September 2010.

Getting Participants to Read and Discuss the HER

» About 93 percent of customers who recall getting the HER said that they read it.
Recalling the Neighborhood Comparison

» About 71 percent of Participants who recall receiving the HER r also recalled the section comparing their household electricity use with “neighbors” in similar homes.

» Some 63 percent of those who recalled the neighbor comparison also reported discussing the comparisons with household members, neighbors, relatives and/or people at work or school.

Getting Readers to have Confidence in the Report’s Comparison

» About 50 percent of readers who recalled the “neighbor comparison” section said they had confidence that the comparison of their home with others was accurate.

» However, 34 percent said they did not have confidence that the HER’s comparison to neighbors was accurate.

» Another 18 percent reported mixed feelings or “some doubts” about the comparisons of their home’s electricity use with others.

Getting Participants to Take Action

» Some customers took action in response to HER tips about home energy conservation during the first five months of mailings.

» Among higher-than-average use (EE) customers, about 27 percent reported taking action on one or more recommendations made in the HERs while among lower-income customers, 42 percent reported action.

» Customers who took action were asked what they specifically did, and their responses spread across a wide set of actions including installing CFL bulbs, unplugging appliances to reduce phantom power load, and getting rid of second refrigerators.

Participant Interest in Continuance of the HER Mailings

» About 75 percent of participants said they wanted to continue getting the mailed reports.

» About 24 percent of participants said they would rather not continue getting the reports. The survey did not probe the customer’s specific reasons for wanting discontinuance, but other questions in the survey do show concerns with the accuracy of neighborhood comparisons.

According to AEP Ohio, actual requests to discontinue mailing the HER are very few (less than one percent of the 150,000 customers being mailed the unsolicited HER.)

Recommendations
1. Before expanding the number of customers participating in the HER, consider assessing opportunities for publicity and education prior to mailing reports.

2. Consider stating explicitly that the intent is to alert the customer of opportunities to save money and improve personal household management, and not to embarrass.

3. Consider offering a field-tested explanation of some type regarding how one home might be considered comparable to others cited in the HER “neighbors section.”

4. Consider holding HER advisory workshops composed largely of employees staffing AEP Ohio call centers and field offices. Input would go to OPOWER and management staff of AEP Ohio.

5. In future evaluations, after additional experience with the program has been realized, consider investigating the effects of the different frequency of mailings on customer satisfaction with the program, as well as self-reported number of energy savings actions taken.
Section 1. Introduction and Purpose of the Study

This section provides an overview of the Process Evaluation of the AEP Ohio Home Energy Report (HER) pilot program. The section describes this program, which provides a free information service that encourages residential customers to adopt technology and behaviors that reduce annual energy and modify peak electricity demand. Also described are the program implementation strategy and marketing.

1.1 Program Introduction

The purpose of the HER pilot program is to foster changes in residential energy use through customer adoption of behavioral change. Named “the HERs program” by AEP Ohio, this information-and-persuasion program is provided by the implementation contractor selected, OPOWER. The OPOWER program is based on social normative psychology. Through regular non-billing mailings, residential customers are informed of how their levels of electricity use compare to others, with the implicit message that they accept suggestions to conform to the “social norm” in their community.

Somewhat like a school report card, the mailing informs the customer how his/her household’s use of electricity compares to an anonymous set of neighbors with similar homes. The two-page color HER presents quick-glance graphics that are intended to motivate customers to reduce their own usage.

1.2 Purpose of Study

This report describes a Process Evaluation of the HER pilot. It uses interviews with customers to probe conscious decision making affecting electricity use, and to identify changes in the number of household members that may have affected electric use.

Behavioral change, as the term is used here and by OPOWER, incorporates both changes in lifestyle (e.g., adjusting the thermostat, increasing the number of occupants) and in technology (e.g., replacing incandescent light bulbs with CFLs.) However, technology change that involves participation in other AEP Ohio programs must be netted out of the impacts obtained in the HER pilot to determine the true behavioral change impacts.

Aside from the primary question are questions about secondary details of customer behavioral responses, values, attitudes, perceptions and desires/needs. Information from answering these questions will inform AEP Ohio marketing plans and management. Following are some of these questions, as identified in mid-2010 in the Program Evaluation Plan.
Process Questions

1.3.1 Awareness and Participation

1. Are all adult members of participating households aware of the HER reports and their frequency? What strategies could be used to boost program awareness?

2. Are the messages within the reports clear and actionable?

3. Do the participants report taking energy savings actions in response to the reports? Do those actions vary by season? Are the actions changes in behavior? Are the behavioral changes temporary or persistent? Do the actions include investments in new energy efficiency measures (persistent)?

Program Characteristics and Barriers

4. How do participants perceive the reports?
   a. What is their perception of the purpose of the reports?
   b. Are customers satisfied with the number of reports and the information presented?
   c. Are there particular program characteristics that could be changed to improve customer satisfaction while maintaining program effectiveness?

5. What are key barriers to understanding and/or responding to the information in the reports?

6. Do perceptions change over time? Is there a difference in reaction to the first report vs. later reports?

7. If energy savings actions were taken, does the participant feel it was reflected accurately in the later reports they received? In other words, if the customer made a change did it show up in their next report as they expected?

8. Would participants like to continue receiving the reports? What is the preferred frequency?

Implementation Strategy

Program Delivery Mechanisms and Marketing Strategy

The delivery strategy for AEP Ohio's HER pilot was designed and managed in consultation with OPOWER. It included mailing of customer communications by OPOWER starting in late summer 2010 to 150,000 participating residential customers.
AEP Ohio’s call center has a team of staff trained in the Home Energy Report to handle customer inquiries. The AEP Ohio website addresses common questions at <www.aepohio.com/account/usage/HomeEnergyReports/FAQs.aspx>. Letters, emails and complex questions about the HER are handled by AEP Ohio’s Consumer Program Coordinator for the Home Energy Reports.

Residential customers were chosen to receive the HER and were mailed it without prior solicitation for participation. However, when customers objected to the delivery of the HER, recognition was made that such customers had de facto “opted-out,” and their names were removed from OPOWER’s mailing lists for future months.

The target market consists of two major segments:

1. Residential customers with higher-than-average daily electricity use. The average was calculated separately for two sub-populations of AEP Ohio’s residential sector. That is, an average was calculated for customers served by OPCo and a second average was calculated for CSP.

2. Residential customers whose accounts were listed on Ohio’s Percentage of Income Payment Plan (PIPP) database at the start of August 2010.

Key elements of the implementation strategy include:

» Introducing the HER program to AEP Ohio customer contact personnel and marketing/advertising staff.

» Ensuring news media and regulatory officials are aware of the program and adequately informed.

Role of AEP Ohio Staff

The AEP Ohio the Consumer Program Coordinator for the HER program is to provide day-to-day operations management of the program and to respond to all customer inquiries. AEP Service Company provides daily extracts of the billing data to the contractor.

Roles of the Implementation Contractor

OPOWER staff are implementing the HER program including maintaining changes to the customer mailing lists, receiving billing data from the AEP Service Company to update personalized customer reports, extracting local weather data to adjust reports for weather-related use, and handling inquiries from AEP Ohio customers participating in the program.
Section 2. Description of Program

The HER pilot program works to foster changes in residential electricity use by customer adoption of electrical energy-reducing behaviors and technologies.

Named the Home Energy Report Program by AEP Ohio, this information-and-persuasion program is provided by the implementation contractor selected, OPOWER. The OPOWER system is based on social normative psychology. Through regular non-billing mailings, residential customers are given informed how their levels of electricity use compare to others, with the implicit message that they accept suggestions to conform to the “social norm” in their community.

Somewhat like a school report card, the mailing informs the customer how their household use of electricity compares to an anonymous set of neighbors with similar homes. The two-page color HER presents quick-glance graphics that are intended to motivate customers to reduce their own usage.

The Participant group had two subgroups distinguished by the frequency and types of messages in the HER:

» Group 1 is defined as “OPOWER web access and reports six times a year”.

» Group 2 is defined as “OPOWER web access and reports six times a year plus two peak seasonal reports.”

2.1 Basis for creation of the Logic Model

This section describes the program theory for the HER pilot. A logic model is under development and will be included in the final report deliverable that will also include the Impact Evaluation results.

Best practices for energy efficiency programs require that all programs have a sound program plan and clearly articulated program theory. The HER is a different category from traditional utility energy efficiency programs that directly promote a specific technology like high efficiency refrigerators. Rather, it attempts to use education and communication to influence customer behavior. It puts people at the center. The goal is to help consumers do what they already want to do: control their electricity bills.

Education programs have long been part of a utility’s portfolio, but only recently have such programs been systematized and implemented with ongoing monitoring of effectiveness through experimental testing of program details.
The essence of the HER Program design is that people respond to perceived social norms (neighbors "keep up with the Joneses" according to their observations and inner projections of norms expected by their neighbors). Marketing has long tapped the need to compete and emulate to build markets.

Much of OPOWER's HER service is considered proprietary by the developers. However, substantial public literature documents that the OPOWER strategy evolved from social science research on consumer energy behavior. Such research started with the first "energy crisis" of the early 1970s. It was recognized that changes were needed in both technology and in human behavior. Not only must a homeowner install technologies such as building shell insulation, but also properly adjust the thermostat and turn off unneeded appliances.

OPOWER describes its service in this way:

"Before we deploy our Home Energy Reporting program in a new region, we randomly divide household into two groups with statistically equivalent demographic profiles and past consumption patterns. Both groups are exposed to the same local weather, energy prices, and economic environment. The only statistically meaningful difference between the groups is that the test group receives HERs while the control group does not."

The handy starting model for evaluation draws from educational assessment. Were the messages heard, properly understood, and acted upon? Did the actions produce results? Measurement of results includes both customer actions (e.g., installed higher efficiency refrigerator) and customer electricity use (as measured by utility billing data in the Impact Evaluation.)

Consider just the front-end of the HER process, the process of verification. When HERs are sent by mail to an address, there are at least six possibilities:

- It is received, opened and remembered.
- It is received, but recycled without opening.
- It is received and opened, but not given serious inspection (perhaps because it looks "like another ad").
- It is received and read by the primary bill handler, but forgotten.

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It is received at the household and read by others in the household, perhaps in addition to the person who normally handles the bill.

It is “lost in the mail” due to incorrect labeling, loss or theft.

The HER pilot has a program logic requiring the customer (including household members) to accomplish at least six tasks:

1. Receive the HER and open the envelope.
2. Read the HER.
3. Understand/comprehend, often through discussion with others.
4. Accept analysis and recommendations as reasonable, actionable.
5. Persuasion of reader/decision maker that they undertake behavioral or technology changes.
6. Taking effective action and avoiding ineffective action.

Each of the aforementioned steps is addressed in the Process Evaluation survey reported here.
Section 3 Methodology

The process evaluation used customer data gathered by a computer-assisted telephone interview (CATI) of a sample of AEP Ohio residential customers. The survey was conducted by reaching 287 residential customers of AEP Ohio. Timing for the survey the week of February 7-14, 2011, approximately five months after the pilot was launched. The telephone interviews were managed by a subcontractor to the evaluation team.

The interviews used a survey developed by the evaluation team with reviews and editing by AEP Ohio. Suggestions by the survey house were adopted to improve the flow and computer collection of data. Each customer interview lasted an average of 10-20 minutes.

In early February 2011, 287 AEP Ohio customers were interviewed. The survey included a verification question asking whether the HER reports were indeed being received at the participating households (see discussion on following pages.)

Response data was supplied electronically to the evaluation team for statistical analysis and is reported below. Summary statistics, crosstabs and T-tests were used to validate the sampling assumptions and conduct exploration of the dataset.

Some important factors potentially influencing the respondents to the survey were discovered late in the survey process and could not be controlled for by statistical methods. This should be recognized by those interpreting the results. These influences are discussed below.

3.1 Comparability of Participants and Non-Participants

Prior to data analysis and any comparison of sub-populations, the process evaluation must address a fundamental question:

» Is the Participant group (households receiving the HER) different in any substantive way from the Non-Participant group (households not receiving the HER)?

For the Process Evaluation survey, this comparability analysis was conducted by comparing proportional and mean responses to several structural items. No bias was detected, and the two groups were judged comparable.
3.2 Demonstration of Participant Effect by Comparing Actions of Participants and Non-Participants

While the main Participant effect on kilowatt-hour usage is not known at this time, there is evidence from the process evaluation that customers in the Participant group did behave differently from customers in the Non-Participant group.

A random sample of 4,200 residential customers was selected by the evaluation team from a copy of the customer database supplied in January 2011 by staff of AEP Ohio. From this list, 287 customers responded to the survey. The sampling frame was extracted to represent four populations:

- Participant - OPCo
- Participant - CSP
- Non-Participant - OPCo
- Non-Participant - CSP

Other group comparisons were made based on this foundation. Table 3-1 shows a high-level quantitative summary of Participant vs. Non-Participant numbers.

![Table 3-1. Survey respondents, Feb 2011, Participant vs. Non-Participant](image)

As shown in Table 3-2, the 287 survey respondents include 215 households that were mailed the HER, as well as 72 that were not mailed the reports, yet were interviewed as controls to measure biases and develop adjustment factors.

3.3 Participant Sub-Populations

The 215 surveyed participants had many overlapping memberships outside of receiving the HER. Some were participants in the PIPP program. Some belonged to a group of higher-than-average electricity users. Some received HER mailings bi-monthly while the low income group received additional heating/cooling season mailings.

- One special category is labeled “PI” and represents households with annual income less than 150 percent of federal poverty limit as of August 2010.
The other special category is labeled "EE" and represents customers with higher-than-average electricity use in the 24 month period July 2008-June 2010.

Table 3-2. Respondent Numbers by Category

<table>
<thead>
<tr>
<th>Special category of residential customer</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher than average electricity use</td>
<td>144</td>
<td>67%</td>
</tr>
<tr>
<td>PI-Household income below 150% FPL (federal poverty level)</td>
<td>71</td>
<td>33%</td>
</tr>
<tr>
<td>Total</td>
<td>215</td>
<td>100%</td>
</tr>
</tbody>
</table>

The Participant group had members of each category (higher-than-average electricity use and household income lower than 150 percent FPL.) In contrast, the Non-Participant group had members of only one special category. All Non-Participant respondents were EE (higher than average electric use.) Therefore, the PI (low-income) group does not have a "control" reference. The Participant group also had two subsets distinguished by the frequency and types of messages in the HER.

- Group 1 is defined as "OPOWER web access and reports six times a year".
- Group 2 is defined as "OPOWER web access and reports six times a year plus two peak seasonal."

The AEP Ohio coordinator for the HER program explained that for the first five months of the program, the difference between Group 1 and Group 2 was restricted to a single extra mailer about heating uses of electricity in December 2010.

Table 3-3. Respondent Numbers by Number and Frequency of Mailings

<table>
<thead>
<tr>
<th>Delivery regime</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>144</td>
<td>67%</td>
</tr>
<tr>
<td>Group 2</td>
<td>71</td>
<td>33%</td>
</tr>
<tr>
<td>Total</td>
<td>215</td>
<td>100%</td>
</tr>
</tbody>
</table>

3.4 Nested Comparison of AEP Operating Companies

AEP Ohio is composed of two operating companies: OPCo and CSP. The surveyed customers from OPCo are compared with the respondents served by CSP. Of the HER participants completing surveys, 106 were customers of OPCo and 109 were customers of CSP. Of the 72 Non-Participant completes, 37 were customers of OPCo and 35 were CSP customers.
Table 3-4. Participant Respondent Numbers by Operating Companies of AEP Ohio

<table>
<thead>
<tr>
<th>Service Territory</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPCo</td>
<td>106</td>
<td>49%</td>
</tr>
<tr>
<td>CSP</td>
<td>109</td>
<td>51%</td>
</tr>
<tr>
<td>Total</td>
<td>215</td>
<td>100%</td>
</tr>
</tbody>
</table>

3.5 Respondent Screening

All 287 respondents answered yes to the following screening question:

*Are you the person in your house most involved with your utility bill?*

It was assumed that the person most involved with the utility bill would have the highest probability of seeing/reading the HER. However, separate questions were asked about who else in the household read the HER.

3.5.1 Response Rate

The evaluation team supplied the survey house with a sampling frame 4,200 names and phone numbers of customers (700 for each of six customer categories.) Of these 4,200, a portion were called, but many could not be reached because of answering machines, unanswered phones because of customer screening of caller ID, etc. The refusal rate by customers contacted was low (customers who answered the phone but were unwilling to discuss the HER.) Some 287 persons answering the phone were screened, qualified and answered enough questions to be considered “completes.” Customer response to the phone requests was comparable to other surveys.
Section 4  Detailed Evaluation Findings

4.1 Program Processes

Looking at the key steps of the HER communications process, following are the results of the February 2011 survey.

Getting the Report to Designated Participants
  » A verification section in the phone survey found that 89 percent (189 of 215) of intended Participants reported that they did receive one or more HERs since September 2010.

Getting Participants to Read and Discuss the HER
  » About 93 percent of customers who recall getting the HER said that they read it.

Recalling the neighborhood comparison
  » About 71 percent of Participants who recall receiving the HER report also recalled the section comparing their household electricity use with “neighbors” in similar homes.
  » Some 63 percent of those who recalled the neighbor comparison also reported discussing the comparisons with household members, neighbors, relatives and/or people at work or school.

Getting readers to have confidence in the report’s comparison
  » About 50 percent of readers who recalled the “neighbor comparison” section said they had confidence that the comparison of their home with others was accurate.
  » However, 35 percent said they did not have confidence that the HER’s comparison to neighbors was accurate.
  » Another 18 percent reported mixed feelings or “some doubts” about the comparisons of their electricity use with others.

Getting Participants to Take Action
  » Some customers took action in response to HER tips about home energy conservation during the first five months of mailings. Among higher-than-average use (EE) customers, about 27 percent reported taking action on one or more recommendations made in the HERs while among lower-income customers, 42 percent (22 of 53) reported action.
  » Customers who took action were asked what they specifically did, and their responses spread across a wide set of actions including installing CFL bulbs, unplugging appliances to reduce phantom power load, and getting rid of second refrigerators.

Participant Interest in Continuance of the HER Mailings
» About 75 percent of participants said they wanted to continue getting the mailed reports.

» About 24 percent of participants said they would rather not continue getting the reports. The survey did not probe the customer’s specific reasons for wanting discontinuance, but other questions in the survey do show concerns with the accuracy of neighborhood comparisons.

» According to AEP Ohio, actual requests to discontinue mailing the HER are relatively few (less than one percent of the 150,000 customers being mailed the unsolicited HER.)

4.2 Customer Self-Report on Importance of Reducing Electricity Use

Before customers take action on home energy use, the customers must view the expected results as important. An initial question was asked at the start of the survey, before customers were quizzed about the mailed HERs. The question was stated:

_How important is it to your household to reduce electricity use and thereby to reduce your bills? On a scale of 0 to 10 where 0 = not important at all and 10 = extremely important, how would you rate the importance of reducing your household’s electricity use?_

Table 4-1 shows the distribution of customer ratings about the importance of reducing their electric bill. Ratings were comparable between customers of the two operating companies. The top four “boxes” on the importance scale was 87 percent for OPCo and 81 percent for CSP.
Table 4-1. Customer Ratings of Importance of Electricity Conservation for Budget Reasons

<table>
<thead>
<tr>
<th>Importance of reducing electricity use</th>
<th>OPCo</th>
<th>CSP</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-Not important at all</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>1</td>
<td>-</td>
<td>1%</td>
</tr>
<tr>
<td>2</td>
<td>-</td>
<td>1%</td>
</tr>
<tr>
<td>3</td>
<td>2%</td>
<td>1%</td>
</tr>
<tr>
<td>4</td>
<td>-</td>
<td>3%</td>
</tr>
<tr>
<td>5</td>
<td>5%</td>
<td>6%</td>
</tr>
<tr>
<td>6</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>7</td>
<td>8%</td>
<td>5%</td>
</tr>
<tr>
<td>8</td>
<td>17%</td>
<td>20%</td>
</tr>
<tr>
<td>9</td>
<td>7%</td>
<td>5%</td>
</tr>
<tr>
<td>10</td>
<td>55%</td>
<td>55%</td>
</tr>
</tbody>
</table>

4.3 Space Heating Characteristics of Participant Group

Customers were asked in the survey what their primary space heating fuel was. The survey question read:

*Thinking of your home's heating system. What is the main energy source or fuel used to heat your home? The main energy source is the one that is used most.*

Roughly one in three survey respondents reported that their primary space-heating fuel was electricity. The self-report statements have not been verified by the evaluation team; however, it is not unreasonable to accept the self-reports as accurate, especially given the selection process for participation by OPOWER. Most HER participants and most participants surveyed had electricity use “above average.” In those households where electricity is the main heating source, it is likely that electric space heating is the largest single end use of electricity. If customers want to reduce their electricity use (changing their behavior regarding the thermostat) it is important that customers are aware of that fact.
Table 4-2 Home Heating Fuel

<table>
<thead>
<tr>
<th>Value Label</th>
<th>Frequency</th>
<th>Percent of Customers contacted</th>
<th>Valid Percent of those who offered knowledge of the main heating energy source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity</td>
<td>71</td>
<td>33%</td>
<td>42%</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>75</td>
<td>35%</td>
<td>44%</td>
</tr>
<tr>
<td>Propane</td>
<td>8</td>
<td>4%</td>
<td>5%</td>
</tr>
<tr>
<td>Oil</td>
<td>6</td>
<td>3%</td>
<td>4%</td>
</tr>
<tr>
<td>Wood</td>
<td>4</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Other [Specify]</td>
<td>4</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Don't Know</td>
<td>1</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>No response/Not asked</td>
<td>46</td>
<td>21%</td>
<td>Missing</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>215</td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

4.4 Energy Used to Heat Water in Household

More than 56 percent of customers who reported the energy source used to heat water in their home said "electricity" while 40 percent said "natural gas." What is significant is that a large percentage (23 percent) could not answer the question about the fuel heating their household water, since the electric water heater is most often the largest single user of electricity in most homes that do not use electric space heating. If behavioral changes are to have an impact on a household's electricity use, the residents of the home need to be aware of this fact.
Table 4-3. Water Heating Energy Source

<table>
<thead>
<tr>
<th>Value Label</th>
<th>Frequency</th>
<th>Percent includes non-response</th>
<th>Percent of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity</td>
<td>94</td>
<td>44%</td>
<td>56%</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>67</td>
<td>31%</td>
<td>40%</td>
</tr>
<tr>
<td>Propane</td>
<td>3</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>Other (Specify)</td>
<td>1</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Don't Know</td>
<td>4</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Refused/Skipped</td>
<td>46</td>
<td>21%</td>
<td>Missing</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>215</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

4.5 Verification of Delivery of HERs

Respondents were asked to verify whether mailed reports were received by the following verification:

*Starting in September 2010, a report that AEP Ohio calls the Home Energy Report is mailed monthly to your home. You may have received two or three of these since September. Do you recall whether your household received one of these HERs?*

Verification is important for energy efficiency programs whether it’s verification of technology installation or verification of communications effectiveness. Communications evaluation is a complex undertaking. Verification can fail for many reasons. When mail is sent to an address, there are six likely possibilities:

» It is received, opened and remembered.

» It is received, but recycled without opening.

» It is received and opened, but not given serious inspection (perhaps because it looks “like another ad”).

» It is received and read by the primary bill handler, but forgotten.

» It is received at the household and read by others in the household, perhaps in addition to the person who normally handles the bill.

» It is “lost in the mail” due to incorrect labeling, loss or theft.
The HER pilot has a program logic requiring the customer (including household members) to pass at least six hurdles:

1. Receive the HER and open the envelope.
2. Read the HER.
3. Understand/comprehend, often through discussion with others.
4. Accept analysis and recommendations as reasonable, actionable.
5. Persuasion of value to person from behavioral or technology changes.
6. Taking effective action and avoiding ineffective action.

From a high level, the survey shows acceptable results (80 percent) at the first hurdle measure for AEP Ohio's HER pilot, at least in terms of delivery being recalled. Four of five Participants said they received at least one mailing over the previous four months. Recalling the mailing is important because a great deal of mail is tossed or recycled without opening. Direct mailers know that a large proportion of delivered mail—even if it is opened by the intended Participant—is not seriously inspected.

### 4.6 Reading of HER Within Household

#### 4.6.1. Readership Rates

If the goal is to increase the spread of energy efficiency practices in Ohio households, then it will be important to reach more than the person paying the bill.

Unless a household has only one member, the household's electricity use is not under the control of one person. Roughly 70 percent of Ohio households have more than one occupant, and every occupant makes decisions affecting electricity use. The number of electricity-using “switches” in the average U.S. household is estimated at greater than 80 individual on/off controls. In addition, the opening and closing of doors and windows affects electricity use.

The survey attempted to gauge how far the message of the HER went after reaching the person paying the bill. The survey did not find evidence that the HER is read by most other household members, although respondents did report verbal discussion of a section of the report with “others” such as household members. This section describes how much the household uses in comparison to similar homes.

According to the survey, 94 percent of the households where the HER was opened and reviewed, the only reader is the bill payer. In other questions in the survey, respondents were probed about their spouse, partner, children and others. In nearly all cases where there were

---

3 “Switches" as the term is used here, includes water faucets for hot water, light switches, plug-in cell phone transformers, fans on warm air furnaces, etc.
others in the house, the bill payer (survey respondent) said he/she was not aware of others reading it. Table 4-4 lists who in the household read the home energy report.

Table 4-4. Readership of the HER within the Household

<table>
<thead>
<tr>
<th>Question: OK, so you have been receiving the Home Energy Reports: Who in your household has looked at it (HER) even once?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response</td>
</tr>
<tr>
<td>I personally read it</td>
</tr>
<tr>
<td>Others in my household looked at it</td>
</tr>
<tr>
<td>It got tossed and no one looked at it with more than a glance</td>
</tr>
<tr>
<td>Don't know</td>
</tr>
</tbody>
</table>

4.7 Customer perception of the Home Energy Report

One question involved customer perception of the HER. To address this, the survey asked about customer ratings of value, about the reasonableness of action recommendations, and about customer confidence in comparisons of electricity use among similar homes in the neighborhood.

4.7.1 Value Rating of Home Energy Report by Customers

Customers who recalled receiving the HER were asked to rate it for value on a scale of 0 to 10 with 0=almost no value and 10=extremely valuable. Table 4-5 shows the distribution of ratings from 169 customers who read the report and felt able to rate.
Table 4-5. Customer ratings of value of Home Energy Report

<table>
<thead>
<tr>
<th>Value of the Home Energy Report</th>
<th>Low-income Households N=71</th>
<th>Higher-than-average electricity users N=115</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-Almost no value</td>
<td>0%</td>
<td>8%</td>
</tr>
<tr>
<td>1</td>
<td>0%</td>
<td>1%</td>
</tr>
<tr>
<td>2</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>3</td>
<td>0%</td>
<td>4%</td>
</tr>
<tr>
<td>4</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>5</td>
<td>13%</td>
<td>17%</td>
</tr>
<tr>
<td>6</td>
<td>8%</td>
<td>3%</td>
</tr>
<tr>
<td>7</td>
<td>9%</td>
<td>14%</td>
</tr>
<tr>
<td>8</td>
<td>17%</td>
<td>17%</td>
</tr>
<tr>
<td>9</td>
<td>4%</td>
<td>5%</td>
</tr>
<tr>
<td>10-Extremely valuable</td>
<td>38%</td>
<td>15%</td>
</tr>
</tbody>
</table>

Combining the high and low values into two categories provided the information in Table 4-6. The satisfaction rating (combining respondents giving high ratings of 7, 8, 9, and 10) for higher-than-average use customers is 63 percent is considered a “good score” when compared to value surveys of residential customers of other utilities on a range of utility services. Likewise, the Top-4 box rating for PIPP customers is 68 percent, considered a “very good score.”

Another perspective can be gained by comparing a balancing measure-- the percent of Participant/readers who said the reports had low-to-no value (ratings of 0, 1, 2, 3). Viewed from this reverse perspective, 22 percent rated the HERs of small value for “EE-high use customers” and four percent for “low-income PIPP” customers.

Table 4-6. Ratings of Home Energy Report by Special Categories in pilot

<table>
<thead>
<tr>
<th>Special Category</th>
<th>Top-4 Box (pleased)</th>
<th>Bottom-4 Box (irritated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher-than-average electricity user</td>
<td>53%</td>
<td>22%</td>
</tr>
<tr>
<td>PIPP</td>
<td>68%</td>
<td>4%</td>
</tr>
</tbody>
</table>
4.8 Actions Taken by Households

Surveyed customers who reported that they took action on one or more tips in the HER were asked for examples of what they did specifically. The results showed a broad variety of acts.

Table 4-7. Some Actions Taken as Result of HER

<table>
<thead>
<tr>
<th>Verbatim comments by Participants of the HER, February 2011 survey</th>
<th>Customer perception of effect on electricity bill/use</th>
</tr>
</thead>
<tbody>
<tr>
<td>» Turned down the furnace.</td>
<td>Things that customers reported as showing an impact on their bill</td>
</tr>
<tr>
<td>» Turn off appliances more often.</td>
<td></td>
</tr>
<tr>
<td>» Installed energy efficient windows.</td>
<td></td>
</tr>
<tr>
<td>» Changed to more energy efficient light bulbs.</td>
<td></td>
</tr>
<tr>
<td>» Educate kids more.</td>
<td></td>
</tr>
<tr>
<td>» We got rid of an old deep freezer we had downstairs, well, we unplugged it and stopped using it.</td>
<td></td>
</tr>
<tr>
<td>» My nephew stays here when his mother's out of town. I've been racking down on him when he leaves his room to turn off lights his TV his DVD player. Just doing that reduced it by 20 percent. I was really shocked.</td>
<td></td>
</tr>
<tr>
<td>» Turning lights off and not having them run all the time, lower temperature on the thermostat.</td>
<td></td>
</tr>
<tr>
<td>» High efficiency CFL bulbs.</td>
<td></td>
</tr>
<tr>
<td>» Light bulbs low watt.</td>
<td></td>
</tr>
<tr>
<td>» Unplugging lights and things that are not in use. We need another weather strip under the front door.</td>
<td></td>
</tr>
<tr>
<td>» We don't burn the lights as much as we used to.</td>
<td></td>
</tr>
<tr>
<td>» Putting in surge protectors and heat wraps for the heater.</td>
<td></td>
</tr>
</tbody>
</table>
Section 5  Process Recommendations

The following are potential improvements recommended for discussion with AEP Ohio staff. They are proposed to address the weaker points identified in the customer survey of February 2011.

1. Before expanding the number of customers participating in the HER, consider assessing opportunities for publicity and education prior to mailing reports.

2. Consider stating explicitly that the intent is to alert the customer of opportunities to save money and improve personal household management, and not to embarrass.

3. Consider offering a field-tested explanation of some type regarding how one home might be considered comparable to others cited in the HER "neighbors section."

4. In future evaluations, after additional experience with the program has been obtained, consider investigating the effects of the different frequency of mailings on customer satisfaction with the program, as well as self-reported number of energy savings actions taken.
6.1 HER mailed version (sample).
6.2 Telephone survey questionnaire for Participants/non-Participants.
6.3 Telephone survey questionnaire for AEP Ohio program staff.
6.4 Description of PIPP-Sampling frame from which low-income households drawn.
6.1 HER Mailed Version (Sample of What Customer Received)

Home Energy Report
Account number: 0123456789
Report period: 07/08/10 - 09/09/10

We are pleased to provide this personalized report to you as part of a pilot program.

The purpose of this report is to:
• Provide information
• Track your progress
• Share energy efficiency tips

This information and much more available at gridSMARTohio.com/go/reports

Last Month Neighbor Comparison
You used 62% MORE electricity than your neighbors.

<table>
<thead>
<tr>
<th>Efficient Neighbors</th>
<th>Average Neighbors</th>
<th>YOU</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1,118 kWh*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2,056 kWh</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2,886 kWh</td>
</tr>
</tbody>
</table>

* 1 kWh: A 100-watt bulb burning for 10 hours use 1 kWh per hour.

Who are your Neighbors?
• All Neighbors
Approximately 150 occupied-energy homes that are similar in size to your home 2,000 sq ft and have Internet.

• Efficient Neighbors
The most efficient 20 percent from the "All Neighbors" group

Last 12 Months Neighbor Comparison
You used 87% MORE electricity than your efficient neighbors.
This costs you about $866 EXTRA per year.

Key:
• YOU
• All Neighbors
• Efficient Neighbors

Turn over for savings →
6.2 Staff Interview Guide

6.3 Phone Survey Interview Guide

6.4 Sampling Frame from Which "Low-Income Group" Sample of AEP Ohio Customers was Selected

Customer lists from AEP Ohio were transmitted with a variable marked PIPP, an acronym for "Percentage of Income Payment Plan". PIPP is described as follows, from an Ohio Public Utilities Commission fact sheet:

"First implemented in 1983, based on an order of the Public Utilities Commission of Ohio, Ohio’s PIPP is the largest and oldest state-mandated PIPP in the country, serving over 200,000 households during FY 2008 under separate gas and electric components. It requires customers with incomes up to 150 percent of federal poverty guidelines to pay a percent of their monthly household incomes to the utility or utilities providing their primary and secondary heating service. There are several different PIPP plans, but the maximum PIPP payment is 15 percent of the household’s income. If customers remain current on their PIPP payments, they cannot be shut off at any time regardless of the amount of their arrears. The amount of the bill not covered by a combination of the customer’s PIPP payment, the LIHEAP payment, and any other energy assistance the customer may receive, is recovered through riders or surcharges on gas and electricity bills."
Table 6-1 below shows that 33 percent of Participant survey respondents were households on the PIPP list in July 2010 provided by AEP Ohio.

Table 6-1. Distribution of Participant Customers According to Special Categories of Interest

<table>
<thead>
<tr>
<th>Type of customer</th>
<th>Program Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
</tr>
<tr>
<td>EE (Higher than average electric use)</td>
<td>144</td>
</tr>
<tr>
<td>PI (lower than 150% of Federal Poverty Limit)</td>
<td>71</td>
</tr>
<tr>
<td>Totals</td>
<td>215</td>
</tr>
</tbody>
</table>

Introduction

Thank you for talking with me today about AEP Ohio's Home Energy Report Program. The goal of this discussion is to talk more fully about the way this program was designed and implemented. All comments will remain confidential.

The areas I will be discussing are

- Whether program goals are being accomplished.
- Quality of program components.
- How well program activities are being implemented.
- Whether the target audience is being reached.
- How external factors are influencing program delivery.

First, I'd like to get a better understanding of your roles and responsibilities regarding HER.

Respondent Background

- What is your current title?
- Could you describe your general duties and responsibilities for AEP Ohio?
- What are your roles and responsibilities for HER?

Now, I'd like to ask a few questions about your involvement in the design and development of HER.

Program Design and Development

1. Can you provide some details on the history of the program?
   
   a. Was the design based on an existing program? If yes, probe for details about how it is the same and how different.
b. Was the program an extension of an existing program. If yes, probe for details as above.

c. If new program, ask for details on the design, who and how.

2. Were you involved in program design? ongoing

3. Were you involved in program development? If yes probe for details.

Next, I'd like to discuss your views on how the program is being implemented in 2010.

Program Implementation

- Overall, how effective is HER in terms of the following:
  a. Reaching the target market
  b. Overcoming barriers to participation
  c. Educating the target market
  d. Achieving its savings goals
  e. Coordinating with other agencies
  f. Other? Probe

- What appear to be the most successful program components so far?
- Other? Probe
- How successful has HER been in tracking information?
  a. Are there any difficulties with obtaining information?
  b. Have the contractor roles changed?
  c. How frequently is the information tracked by the contractor? Is this sufficient?
  d. How can the tracking be improved/updated/changed?

Next, I'd like to discuss your role in helping to deliver HER in 2010.

Program Administration

- Approximately what percentage of your time is spent on program duties?
  - Was this what you anticipated?
  - How did your duties/responsibilities change during the course of the program?
- What are the most time-consuming aspects for this program? How much interaction do you have with the vendor OPOWER?
- What are your roles and responsibilities with OPOWER?
- What works best?
- What needs to be improved regarding the OPOWER activities?
- What type of feedback have you received from OPOWER?
Is participation in the program simple and streamlined for homeowners?

Now let's move to program delivery.

Program Delivery

- What aspects of the program work well? What aspects of the program do not work well? How might the program be improved?
- What challenges have occurred during the implementation planning phase and introduction of the program in PY2, and how were they overcome?
- Are program-tracking data being used to both assess program effectiveness in meeting the program savings goals, and inform adjustments to program delivery?
- Are program activities being documented? Do program-tracking protocols facilitate effective evaluation?
- Is the program efficient and well managed? How are problems resolved?
- How are program changes handled?
- How does program administration and delivery influence participation? What could be done to improve program administration and delivery?

Let's move to discussion of how the market is made aware of the program.

Marketing and Outreach

- Is outreach to customers increasing awareness of the program opportunities?
- What type of feedback have you received from customers about this program?
  - What did they like?
  - What did they not like?
- What has been the feedback from other market players working with the program?

Lastly, let's discuss program effectiveness in overcoming barriers.

Program Effectiveness and Barriers

- What are the barriers to customer participation?
- What areas could be refined or enhanced to improve the participation process for customers?
Home Energy Report Program Staff Interview Guide

- How could HER be improved? Probe specifically on the following elements (if not addressed previously):
  - Achieving the program's energy savings goals
  - Educating customers to make behavioral changes
  - Customer participation
  - OPOWER's roles and responsibilities
  - Ways in which the program results are tracked and reported
  - Anything else?

- Are participants satisfied with this program? Probe for reasons why & why not – Communications, etc.

- What is your impression regarding likely program free ridership? Why do you say that?

These are all my questions.

- Do you have anything else you'd like to add?

- Thank you again for taking the time to discuss this program.
AEP OHIO HOME ENERGY REPORT PROGRAM
EVALUATION SURVEY 2011

Treatment Households

Telephone Survey Instrument

Questionnaire

Interviewer Instructions

Call is to be placed asking to speak to the individual named under the Contact Name column obtained from program records.

The purpose of the introductory script and associated questions is to identify the person opening and handling the utility bill. Since the Home Energy Report format under evaluation is a direct mail printed item, the person who handles the utility bill is considered the object of study

INTRODUCTION

INTRO 0 Hello, may I speak with [CONTACT NAME]?

INTRO1 ASK TO SPEAK TO CONTACT NAME. IF NOT HOME, ASK TO SPEAK TO OTHER HEAD OF HOUSEHOLD

SCHEDULE A CALLBACK IF NEITHER PERSON IS AVAILABLE.

Hello, I'm _____ of the Blackstone Group, calling on behalf of AEP Ohio. I have just a few questions about the mailings you may have received from AEP in the past few months. Your feedback is important and will help AEP Ohio fine tune the information it sends you. We are only gathering information about your experience and will not attempt to sell you anything. Your name and opinions will be held strictly confidential. This survey will take only a few minutes. Would you be willing to participate?
INTRO 1A. Are you the person in the household who typically reviews your home’s AEP electric bill? [DO NOT READ LIST]

YES................................................................. 1 [CONTINUE]

NO................................................................. 2 [ASK FOR PERSON MOST FAMILIAR. IF NOT AVAILABLE, SCHEDULE CALLBACK]

LANGUAGE BARRIER............................................ 3 [TERMINATE]

CUSTOMER SAYS THEY ARE “TOO OLD”............ 4 [TERMINATE]

CUSTOMER SAYS THEY TOSS ANYTHING IN THE MAIL EXCEPT FOR THE BILL ............ 5

SCHEDULE CALLBACK....................................... 6

GENERAL CALLBACK...................................... 7

REFUSAL .......................................................... TERMINATE, RECORD DETAILS
INTRO 2 [As I said,] we are helping your electric provider, AEP Ohio, determine the value of mailings— in addition to your monthly bill— that have recently been sent to your home.

Your candid advice would be extremely helpful to us. AEP Ohio needs to know if these reports are useful to customers or not, and your response will help guide them. The survey will only take about 10 minutes and your answers will be kept confidential and will be combined with responses by other AEP Ohio customers to protect your privacy.

INTRO Q1. Are you the person in your house most involved with your utility bill? [DO NOT READ LIST]

1 YES [CONTINUE]
2 NO [ASK TO SPEAK TO PERSON MOST INVOLVED WITH THE UTILITY BILL; RETURN TO INTRO 2]
8 DON'T KNOW [THANK AND TERM]
9 REFUSED [THANK AND TERM]

INTRO Q2. How important is it to your household to reduce electricity use and thereby to reduce your bills? On a scale of 0 to 10 where 0=not important at all and 10=extremely important, how would you rate the importance of reducing your household’s electricity use?

1 RATING = ______
2 REFUSED/NO RATING
A. AWARENESS AND USE OF THE REPORT

Starting in September 2010, a report that AEP Ohio calls the “Home Energy Report” is mailed monthly to your home. You may have received two or three of these since September.

A1. Do you recall whether your household received one of these Home Energy Reports? [DO NOT READ LIST]

1. YES [CONTINUE to SECTION A2]
2. DID NOT RECEIVE [SKIP TO SECTION X]
8. DO NOT RECALL/DON'T KNOW [SKIP TO SECTION X]

A2. OK, so you have been receiving the Home Energy Reports. Who in your household has looked at it (Home Energy Report) even once? [READ ALL, CHECK ALL THAT APPLY]

1. I PERSONALLY READ IT
2. OTHERS IN MY HOUSEHOLD LOOKED AT IT [SKIP TO SECTION C IF CODE 1 NOT SELECTED]
3. IT GOT TOSSED OUT AND NO ONE LOOKED AT IT WITH MORE THAN A GLANCE. (IT WAS CONSIDERED JUNK MAIL.) [MAKE MUTUALLY EXCLUSIVE TO CODES 1 AND 2] [SKIP TO SECTION X]
8. DON'T KNOW; [MAKE MUTUALLY EXCLUSIVE TO CODES 1 AND 2]
9. REFUSED [MAKE MUTUALLY EXCLUSIVE TO CODES 1 AND 2] [CONTINUE TO SECTION B ONLY IF A2=1]
B. QUESTIONS FOR CUSTOMERS WHO READ THE REPORTS

B1. To the best of your recollection, when was the last time you reviewed one of the Home Energy Reports? [DO NOT READ LIST]

1. Never reviewed one myself, but others in the house did [SKIP TO SECTION C]
2. Within the past week [CONTINUE TO ITEM B2]
3. More than a week ago, but within the past month [CONTINUE TO ITEM B2]
4. More than a month ago, but sometime since the end of summer/ Labor Day [CONTINUE TO ITEM B2]
5. Don’t know (GO TO Section X)
6. Refused (GO TO Section X)

B2. Most people are very busy, and I won’t assume that you had lots of time to read the report in detail. Based on your memory, roughly how much time did you spend on the report? Did you spend more than 20 minutes reading and thinking about it? 10 minutes? Five minutes? Two minutes? [DO NOT READ LIST]

1. More than 20 minutes personally
2. More than 10 minutes personally
3. More than 5 minutes personally
4. Two minutes or less personally
5. Don’t recall

B3. In your opinion, is the report... READ LIST

1. Very difficult to understand
2. Somewhat difficult to understand
3. Understandable, but neither difficult nor easy to understand
4. Somewhat easy to understand
5. Very easy to understand
6. DON’T KNOW
7. REFUSED
E. Literacy

To help us classify you in terms of prior energy knowledge, I'd like to ask you two questions about appliances in your home.

EL1.—Do you know what fuel or energy source heats your home in your residence?

[DO NOT READ LIST]

a. Electric
b. Natural gas
c. Oil
d. Propane gas
e. Wood
f. Solar
g. NOT SURE
h. Other [SPECIFY]

EL2.—Do you know what fuel or energy source heats the “hot water” in your home?

[DO NOT READ LIST]

a. Electric
b. Natural gas
c. Oil
d. Propane gas
e. Wood
f. Solar
g. NOT SURE
h. Other [SPECIFY]

EL3.—Is this residence a single-family building or is it part of a multi-unit complex?

[DO NOT READ LIST]

a. Single family residence
b. Apartment, duplex or condo
c. Other (trailer, seasonal cottage/cabin)

EL4.—Of the following four home activities using electricity, which typically uses the most electricity per month in your household? (IF ASKED: IN TERMS OF KILOWATT-HOURS OR DOLLARS/CENTS) READ LIST
a. Toaster  
b. microwave oven  
c. bedroom lighting  
d. refrigerator  
e. DK/REF
B4.1a Weather has a lot to do with how much electricity people use primarily because of home electric heaters. Ignoring electricity that you may have used for heating, did you change anything else in your home that either might increase or might decrease electricity use?

[DO NOT READ LIST]

1. Yes, we did some things that probably increased electric use
2. Yes, we did some things that probably decreased electric use
3. No, we didn’t make changes that would have change electric use [SKIP TO B4.2]
4. Don’t know [SKIP TO B4.2]

B4.1b What, specifically, do you recall doing to change your electricity use?

[OPEN END]

B4.2 Were you or others in your household able to take action on any recommendation or energy tip in your personalized report? [DO NOT READ LIST]

1. Yes, I (we) took action on one or more recommendations [CONTINUE TO B4.2b]
2. No, I (we) haven’t done anything yet [SKIP TO B4.3]

B4.2b What, specifically, do you recall doing to change your electricity use?

[OPEN END]

B4.3 Did you see much change in your energy report (or electric bill) following your actions?

[DO NOT READ LIST]

1. Yes, electric use dropped
2. Yes, but electric use rose
3. No change observed
4. Don’t know; wait and see
C. QUESTIONS ABOUT OTHERS IN HOUSEHOLD WHO READ REPORT

C1. To the best of your knowledge, including yourself, which members of your household looked at the Home Energy Report? For example, did a spouse, partner, child or roommate read it? [CHECK ALL THAT APPLY]

1. I read it
2. Read by spouse
3. Read by partner
4. Read by child
5. Read by roommate
6. Read by other [SPECIFY: ____________]
7. Don’t know
8. REFUSE

[CONTINUE TO SECTION D ONLY IF C1=1. SKIP TO SECTION X IF C1<>1]
D. BELIEVABILITY OF REPORT TO RESPONDENT AND OTHERS IN HOUSEHOLD

D1. To help customers control their electric bills, the Home Energy Reports suggest changes to how people use or select appliances, lighting and other equipment. Do you recall any specific suggestions or energy tips in your personalized report? [DO NOT READ LIST]

1. No, don't recall any specifics [SKIP TO SECTION E]
2. YES, SPECIFY [OPEN END]

D2. As best as you can, please rate the reasonableness of the recommendations on a scale of 0 to 10 where 0=completely unreasonable and 10=completely reasonable.

1. RATING = __________
2. REFUSED/DON'T KNOW

E. COMPARISONS TO OTHER SIMILARLY SIZED HOMES

E3. The Home Energy Report also provides information about how your home's electricity use compares to that of a group of homes that are similar in size to yours. It compares your home’s energy use to all similar sized homes and to “efficient” similar sized homes.

E3.1 Do you recall the section in your Home Energy Report that told how your home compared to other homes? [DO NOT READ LIST]

1. YES
2. MAYBE
3. NO [SKIP TO F]
4. DON'T RECALL
5. REFUSE

E3.2 Did you discuss the comparisons with your family or household members, neighbors, relatives, or people at work/school?

1. YES
2. NO
3. DK/REF

E3.3 Do you have confidence in the report’s comparisons—in other words, do you believe that your household is being accurately compared with similar homes?

1. YES
2. NO
3. MIXED FEELINGS; HAVE SOME DOUBTS
4. REFUSED/DK
E3.4 According to your copy of the report, which of the following statements best describes how your home's energy use compares to all similar sized homes? [NOTE: Read through items 1-3 before asking the respondent to choose the category] [SINGLE PUNCH]

1  We usually use more electricity than similar homes
2  We usually use about the same amount of electricity as similar homes
3  We usually use less electricity than similar homes
4  I don't know (don't recall) how our electricity use compares to similar homes (DO NOT READ)

E3.5 Which of the following statements best describes your home's electricity use compared to "efficient" similar sized homes? [NOTE: Read through items 1-3 before asking the respondent to choose the category] [SINGLE PUNCH]

1  We usually use more electricity than "efficient" similar sized homes
2  We usually use about the same amount of electricity as "efficient" similar sized homes
3  We usually use less electricity than "efficient" similar sized homes
4  I don't know how our electricity use compares to "efficient" similar sized homes (DO NOT READ)
SECTION X. QUESTIONS FOR CUSTOMERS WHO HAVE NEVER LOOKED AT THE REPORT

X1. Which of the following statements best describes how you think your household's electricity use since September 2010 compares to the same period last year, in 2009? This question refers to the physical volume of electricity your household used, not to the dollars you paid. [READ LIST. SINGLE PUNCH.]

1. We’re using a lot more electricity than last year [CONTINUE to X1.1]
2. We’re using somewhat more than last year [CONTINUE to X1.1]
3. We’re using about the same as last year [SKIP TO F1]
4. We’re using somewhat less than last year [SKIP to X1.2]
5. We’re using a lot less than last year [SKIP to X1.2]
8. DON’T KNOW
9. REFUSED

X1.1. What might explain the increase in your electricity use compared to last year (check all that apply)? [DO NOT READ LIST]

1. SEPT-DEC WAS WARMER THIS YEAR
2. SEPT-DEC WAS COLDER THIS YEAR
3. SWITCHED TO ELECTRIC HEAT
4. INCREASE IN THE NUMBER OF FULL TIME HOUSEHOLD MEMBERS
5. ADDED ADDITIONAL ELECTRONIC OR COMPUTER EQUIPMENT
6. REMODEL/ADDITION PUT ON THE HOUSE
7. RATE INCREASES
8. OTHER (SPECIFY__________________________
9. DK/REF

[ANY ANSWER TO X1.1, SKIP TO F1]
XI.2 What explains the decrease in your electricity use compared to last year (check all that apply)? [DO NOT READ LIST]

1. SEPT-DEC WAS COOLER THIS YEAR
2. SEPT-DEC WAS WARMER THIS YEAR
3. SWITCHED TO GAS HEAT OR GAS WATER HEATING
4. PURCHASED ENERGY SAVING APPLIANCES/EQUIPMENT
5. DECREASE IN THE NUMBER OF FULL TIME HOUSEHOLD MEMBERS
6. CONSERVING MORE BECAUSE OF CURRENT ECONOMIC SITUATION
7. PURCHASED ENERGY SAVING APPLIANCES/EQUIPMENT
8. ADDED INSULATION/WEATHERIZED HOME
9. BEHAVIORAL CHANGES (TURN LIGHTS OFF MORE OFTEN, TURNED DOWN THERMOSTAT, ETC.)
10. DECREASE IN THE NUMBER OF FULL TIME HOUSEHOLD MEMBERS
11. CONSERVING MORE BECAUSE OF CURRENT ECONOMIC SITUATION
12. OTHER SPECIFY________________________
13. DK/REF
F1. Please tell me how strongly you agree or disagree with the following statements using a scale that ranges from 0 to 10 where 0 means “Completely disagree”, 10 means “Completely agree” and the midpoint of 5 means “Neither agree nor disagree”. To repeat: on one end, zero means completely disagree and on the other end, 10 means completely agree. You can pick any number, with five being neutral: you neither agree nor disagree. (ROTATE THESE STATEMENTS) READ LIST, RECORD RATING FOR EACH

F1.1. The majority of people in my neighborhood are working to be more efficient in their use of electricity.

F1.2. The only good reason to reduce the amount of electricity one uses is to save money. If someone can afford it, there’s no reason to worry about how much power someone uses.

F1.3 A majority of people in my neighborhood should be working harder to save electricity for the good of everyone.

F1.4 The U.S. economy always will be able to make as much electricity as everyone wants and at costs comparable to today, if not cheaper.

F1.5 I believe that some ways of making electricity may damage the environment, but the damage will never harm the well-being of humanity.
DEMOGRAPHICS

D1. Including yourself, how many people 18 years and older are currently living in your household?  
   _ _ALLOW 2 DIGIT RESPONSE

   88. Don’t know
   99. Refused

D2. How many people younger than 18 years old currently live in your household?  
   _ _ALLOW 2 DIGIT RESPONSE

   88. Don’t know
   99. Refused

D3a How many people younger than 18 moved into your household during 2009 or 2010?  
   _ _ALLOW 2 DIGIT RESPONSE

   88. Don’t know
   99. Refused

D3b How many people younger than 18 moved out of your household during 2009 or 2010?  
   _ _ALLOW 2 DIGIT RESPONSE

   88. Don’t know
   99. Refused

D4. How many people older than 18 moved into your household in 2009 or 2010?  
   _ _ALLOW 2 DIGIT RESPONSE

   88. Don’t know
   99. Refused

D4b How many people older than 18 moved out of your household during 2009 or 2010?  
   _ _ALLOW 2 DIGIT RESPONSE

   88. Don’t know
   99. Refused
D5. Which of the following best describes the highest level of education you have completed?

ALLOW ONE RESPONSE ONLY READ LIST

1. Less than high school
2. Graduated high school
3. Some university/college
4. Graduated (2-yr) Community/Technical College
5. Graduated (4-yr) University or College
6. Post Graduate work (beyond 4-yr degree)
88. Don't know
99. Refused

D7. Are you currently working: READ LIST

1. Full time
2. Working part time
3. Unemployed
4. Retired or disabled
5. Refused

Thank you for taking time to help with our survey and the helpful information you provided.
Have a great day/ evening.